


STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING						FORM 3 AMENDED REPORT <input checked="" type="checkbox"/>				
APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER GORDON CREEK SE-30-14-8				
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT GORDON CREEK				
4. TYPE OF WELL Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>						5. UNIT or COMMUNITIZATION AGREEMENT NAME				
6. NAME OF OPERATOR GORDON CREEK, LLC						7. OPERATOR PHONE 403 453-1608				
8. ADDRESS OF OPERATOR 1179 E Main #345, Price, UT, 84501						9. OPERATOR E-MAIL rironside@thunderbirdenergy.com				
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) Burnside Bk599 Pg645			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>				
13. NAME OF SURFACE OWNER (if box 12 = 'fee') Lannie K. Burnside						14. SURFACE OWNER PHONE (if box 12 = 'fee') 435-687-2260				
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee') 32 WEST 100 NORTH, HUNTINGTON, UT 84528						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')				
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>			19. SLANT VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
20. LOCATION OF WELL		FOOTAGES		QTR-QTR	SECTION	TOWNSHIP		RANGE	MERIDIAN	
LOCATION AT SURFACE		1844 FSL 736 FEL		NESE	30	14.0 S		8.0 E	S	
Top of Uppermost Producing Zone		1844 FSL 736 FEL		NESE	30	14.0 S		8.0 E	S	
At Total Depth		1844 FSL 736 FEL		NESE	30	14.0 S		8.0 E	S	
21. COUNTY CARBON			22. DISTANCE TO NEAREST LEASE LINE (Feet) 736			23. NUMBER OF ACRES IN DRILLING UNIT 160				
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 2060			26. PROPOSED DEPTH MD: 3960 TVD: 3960				
27. ELEVATION - GROUND LEVEL 7498			28. BOND NUMBER RLB0010790			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 91-5193				
Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
SURF	11	8.625	0 - 450	24.0	J-55 ST&C	8.7	Class G	212	1.142	15.84
PROD	7.875	5.5	0 - 3960	17.0	N-80 LT&C	10.0	Class G	344	2.69	10.7
ATTACHMENTS										
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input checked="" type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
NAME Barry Brumwell				TITLE Vice President-Operations			PHONE 403 453-1608			
SIGNATURE				DATE 09/29/2011			EMAIL bbrumwell@thunderbirdenergy.com			
API NUMBER ASSIGNED 43007502540000				APPROVAL  Permit Manager						

DRILLING PLAN and PROGRAM

Attached to UDOGM Form 3

GORDON CREEK, LLC.**SE-30-14-8**

SURFACE LOCATION: 1,843.55' FSL & 736.21' FEL

NE/4 of SE/4 of Section 30-14S-8E

Carbon County, Utah

1. SURFACE GEOLOGIC FORMATION

Emery Sandstone Member of the Mancos Shale

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Mancos Blue Gate Shale top: 1,586' KB

Lower Blue Gate Bentonite Marker: 3,355' KB

Ferron SS: 3,490' KB

3. PROJECTED GAS & H₂O ZONES

While no groundwater is expected to be encountered, groundwater *may* be encountered within the Emery Sandstone Member of the Mancos Shale. Any water encountered will be reported on a Form 7 "Report of Water Encountered During Drilling". All indications of usable water will be reported.

Casing & cementing will be done to protect potentially productive hydrocarbons, lost circulation zones, abnormal pressure zones and prospectively valuable mineral deposits.

Surface casing will be tested to 500 psi and the Production casing will be tested to 1,500 psi, with a minimum of 1 psi/ft of the last casing string setting depth.

4. PROPOSED CASING AND CEMENTING PROGRAMS

Refer to EXHIBIT "A" for casing design information

A. CASING PROGRAM

HOLE SIZE (in)	CASING SIZE (in)	WEIGHT (#/ft)	GRADE	JOINT	DEPTH SET (ft)
17	12 ³ / ₄	40.5	H-40	ST&C	0 – 40
11	8 ⁵ / ₈	24.00	J-55	ST&C	0 – 450
7 ⁷ / ₈	5 ¹ / ₂	17.00	N-80	LT&C	0 – 3,960

B. CEMENTING PROGRAM

The 8 ⁵/₈" surface casing will be set and cemented full length with approximately 212 sacks of 0-1-0 Class "G" cement + 2% CaCl₂ + 0.25 #/sk of cellophane flakes mixed at 15.84 ppg (yield = 1.142 ft³/sk); volume based on nominal hole size + 100% excess. The cement will be circulated back to surface. In the event that the cement is not circulated back to surface, a 1" top out job will be performed with 0-1-0 Class "G" cement + 2% CaCl₂ + 0.25 #/sk of cellophane flakes mixed at 15.84 ppg (yield = 1.142 ft³/sk).

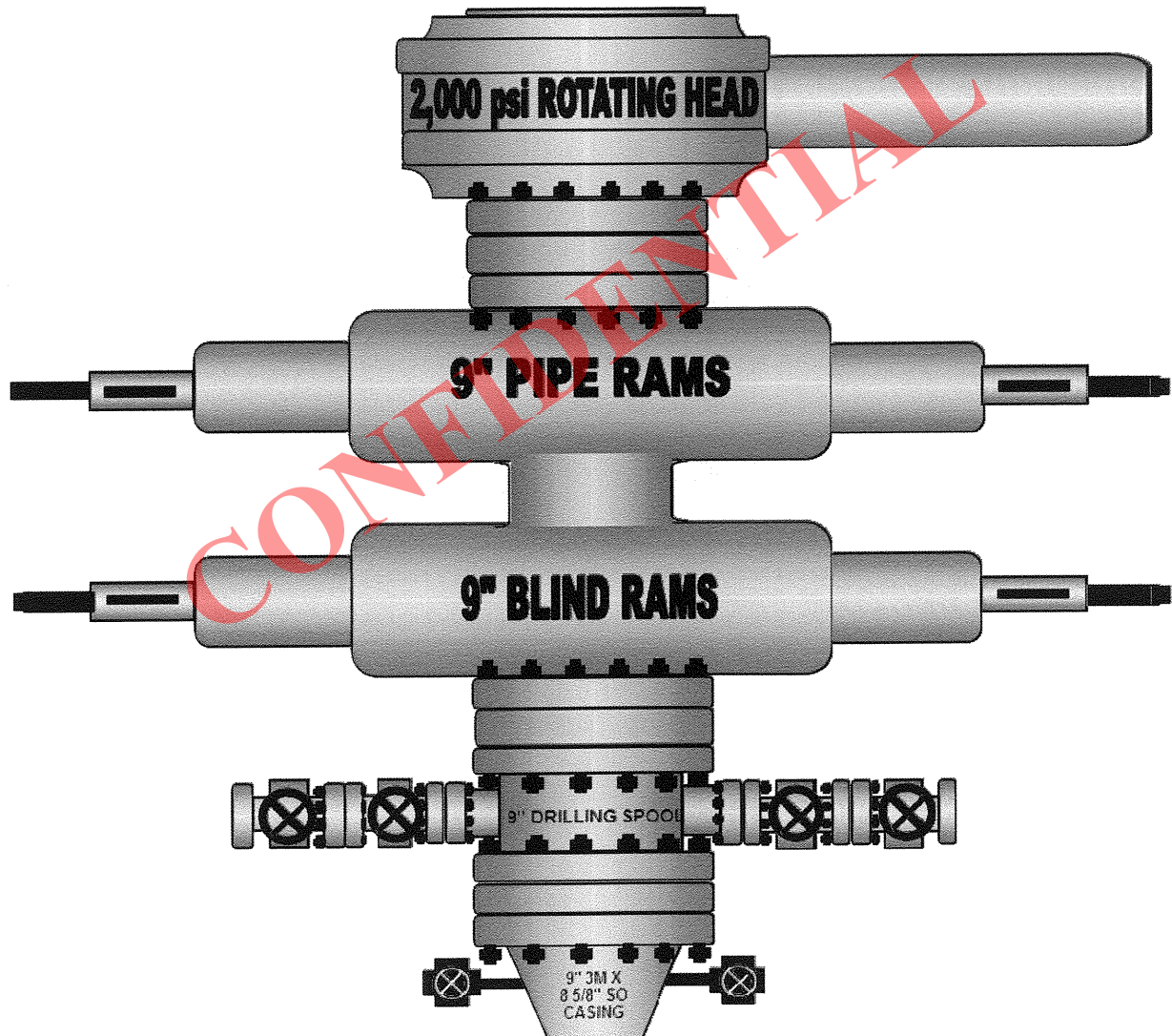
The 5 ¹/₂" production casing will be set and cemented full length using 344 sx of 0-1-0 "G" Light Weight cement incorporating 42% "SuperBall" centrospheres to lighten the cement density + 3% NaCl, 0.3% Air-out, 1.5% SFI-300, 0.2% SCR-2. The cement will be mixed at 10.7 ppg (yield = 2.69 ft³/sk); volume based on nominal hole size + 35% excess. The cement will be circulated back to surface.

THE FOLLOWING SHALL BE ENTERED INTO THE DRILLER'S LOG:

- I. Blowout preventer pressure tests, including test pressures and results;
- II. Blowout preventer tests for proper functioning;
- III. Blowout prevention drills conducted;
- IV. Casing run, including size, grade, weight, and depth set;
- V. How the pipe was cemented, including amount of cement, type, whether cement was circulated back to surface, location of the cementing tools, etc.;
- VI. Waiting on cement time for each casing string;
- VII. Casing pressure tests after cementing, including test pressures and results.

5. THE OPERATOR'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

Below is a schematic diagram of the blowout preventer equipment requirements for this drilling operation. A 9' X 3,000 psi double gate BOP will be used with a 2,000 psi Rotating Head utilized for air drilling operations. ALL BOPE will be pressure tested to the required operating pressures of each component. All tests will be recorded in the Driller's Report Book. The physical operation of each component of the BOP's will be checked on each trip.



6. THE TYPE AND CHARACTERISTICS OF THE PROPOSED CIRCULATING FLUIDS / MUDS

0' – 450'	11" Surface Hole	Drill with air, will mud-up if necessary.
450' – TMD	7 7/8" Main Hole	Drill with air, 500 psi @ 1500-2300 ft ³ /min

Will "mud up" at Total Depth to run logs and casing. Will mud up sooner if hole conditions dictate. It is anticipated that drilling fluid densities of 8.3 – 8.7 #/gal will be utilized when "mudded up".

7. THE TESTING, LOGGING AND CORING PROGRAMS

Open hole logs consisting of a CNL-LDT-GR-CAL will be run from above the Blue Gate Shale to TMD. A DIL-GR-SP log will be run from TMD to surface casing.

8. ANY ANTICIPATED ABNORMAL PRESSURES or TEMPURATURES

No abnormal pressures or temperatures have been noted or reported in wells drilled in the area nor at the depths anticipated in this well. Bottom hole pressure expected is approximately 1250 psi maximum. No hydrogen sulfide or other hazardous gases or fluids have been found, reported or are known to exist at these depths in the area.

9. ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS

The well will be drilled between late September and the end of November, 2011. Verbal and/or written notifications listed below shall be submitted in accordance with instructions from the Division of Oil, Gas & Mining:

- a) prior to beginning construction;
- b) prior to spudding;
- c) prior to running any casing or BOP tests;
- d) prior to plugging the well, for verbal plugging instructions.

Spills, blowouts, fires, leaks, accidents or other unusual occurrences shall IMMEDIATELY be reported to the Division of Oil, Gas & Mining.

EXHIBIT "A"

CASING DESIGN
GORDON CREEK SE-30-14-8
PROJECTED TD: 3,960' KB

SURFACE CASING (0' – 450')

Diameter	8 ⁵ / ₈ "
Interval	450' to Surface
Weight	24 #/ft
Grade	J-55
Coupling	ST&C

Burst Design

The recommended practice is to base the burst rating of the casing string in psi to be at least numerically equal to 0.225 psi/ft times the setting depth in feet of the next casing string. The rating chosen was also intended to match the BOPE pressure rating and exceed the highest possible surface pressure of approximately 936 psig.

Burst required =	$0.225 \times 3,960$	891 psig
Burst rating of casing string:	2,950 psi	
Safety factor =	$2,950 \text{ psi} / 891 \text{ psi} =$	3.31

Collapse Design

Collapse pressure is negligible on this surface string.

Tension Design

String weight in air	10,800 #
Tensile strength of joint	244,000 lbf
Safety factor of joint	22.6

PRODUCTION CASING (0' – 3,960')

Diameter	5 ½"
Interval	4,161' to surface
Weight	17 #/ft
Grade	N-80
Coupling	LT&C

Burst Design

An internal pressure gradient of 0.4863 psi/ft has been used as a basis for these calculations. This gradient is equivalent to the force exerted by 10 ppg drilling fluid, which is a much higher density of fluid than we anticipate being required to drill this well.

Burst rating of casing string:	7,740 psi	
Burst rating required:	3,960' X 0.4863 =	1,926 psig
Safety factor =	7,740 psi / 1,926 psi =	<u>4.02</u>

Tension Design

1.6 Safety factor of top joint, neglecting buoyancy and without over pull.

Tensile rating of casing joint:	348,000 lbf	
String Weight:	3,960' X 17 #/ft =	67,320 lbf
Safety factor =	348,000 lbf / 67,320 lbf =	<u>5.17</u>

Collapse Design

Maximum anticipated mud weight is 10.0 ppg based on a mud gradient of 0.53 psi/ft.

Collapse rating of csg string:	6,280 psi	
Collapse rating required:	3,960' X 0.53 psi/ft =	2,099 psi
Safety factor =	6,280 psi / 2,099 psi =	<u>2.99</u>

Production Casing Design

Interval (ft)	Weight (#/ft)	Grade	S.F. Burst	S.F. Collapse	S.F. Tension
3,960' – 0'	17	N-80	4.02	5.17	2.99

MULTI-POINT SURFACE USE PLAN

Attached to UDOGM Form 3

GORDON CREEK, LLC.

SE-30-14-8

SURFACE LOCATION: 1,843.55' FSL & 736.21' FEL

NE/4 of SE/4 of Section 30-14S-8E

Carbon County, Utah

1. EXISTING ROADS

- a. We do not plan to change, alter or improve upon ANY existing State or County roads.
- b. Existing roads will be maintained in the same or better condition.

2. PLANNED ACCESS

- a. No new access is required, as this well was previously permitted and the access and location were built in accordance with that permit. The current route will be re-conditioned to ensure adequate access.
- b. If the well is productive, the road will be maintained as necessary to prevent soil erosion and maintain year-round traffic. However, we may allow the access road to be gated and closed off during winter production operations and access the site with a snowmobile or other winter ATV.
- c. Maximum Width: 24' travel surface with 27' base.
- d. Maximum grade: 25%
- e. Road culverts may be required. Surface water will be diverted around the well pad as necessary.
- f. Any power lines and / or pipelines to/from the well will follow the proposed access route.

3. LOCATION OF EXISTING WELLS

- a. As shown on the Civil Location Survey Plat for the well.

4. LOCATION OF EXISTING and/or PROPOSED FACILITIES

- a. If the well is a producer, installation of required production facilities will follow the drilling and completion phase of well operations. Buried flow lines, water lines and electrical cable will follow the proposed access road and other existing access ROWs to the intersection with Thunderbird's main 12' pipeline corridor.
- b. Rehabilitation of all pad areas not used for production facilities will be made in accordance with landowner stipulations.

5. LOCATION AND TYPE OF WATER SUPPLY

- a. All water to be used for drilling operations will be obtained from area water wells drilled and owned by Gordon Creek, LLC.
- b. Water will be transported to location by truck over approved access roads.

6. SOURCE OF CONSTRUCTION MATERIALS

- a. Any necessary construction materials needed will be obtained locally from a private source and hauled to the location on existing roads.
- b. No construction or surfacing materials will be taken from Federal / Indian lands.

7. METHODS FOR HANDLING WASTE DISPOSAL

- a. Rather than utilizing a "mud pit" on each drilling location, we will be utilizing one large "remote sump" pit per approximately 4-6 wells drilled to hold the drilled solids and drilling fluids required during the drilling of those 4 wells. This remote sump will be centrally located on one of the drilling locations. Three sides of the reserve pit will be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.
- b. As the majority of each well is expected to be air drilled, a small reserve "blooie" pit will be constructed with a minimum of one-half the total depth below the original ground surface on the lowest point within the pit. The pit will not be lined unless conditions encountered during construction warrant it or if deemed necessary by the DOGM Representative during pre-site inspection. Three sides of the reserve pit will be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.
- b. Following drilling, the liquid waste will be evaporated from any pit and the pit backfilled and returned to natural grade. No liquid hydrocarbons will be discharged to the reserve pit or location.
- c. In the event that wellbore fluids are produced, any oil will be retained in tanks until sold and any water produced will be retained until its quality can be determined. The quality and quantity of the water will determine the method of disposal.
- d. Trash will be contained in a portable metal container and will be hauled from location periodically and disposed of at an approved disposal site. Chemical toilets will be placed on location and sewage will be disposed of at an appropriate disposal site.

8. ANCILLARY FACILITIES

- a. We anticipate no need for ancillary facilities with the exception of a trailer to be located on the drill site.

10. WELLSITE LAYOUT

- a. Gordon Creek, LLC. has reduced to surface lease size (area stripped and levelled) for this location to the smallest lease size possible to accommodate the required drilling rig and support equipment.
- b. Any available topsoil will be removed from the location and stockpiled. The location of the rig, mud tanks, reserve and berm pits and all other drilling support equipment will be located as per common oilfield rig layouts.
- b. A blooie pit will be located 100' from the drill hole. A line will be placed on the surface from the center hole to the blooie pit. The blooie pit will not be lined, but will be fenced on four sides to protect livestock/wildlife.
- c. Access to the well pad will be as shown on the Civil Location Survey Plat for the well.
- d. Natural runoff will be diverted around the well pad.

10. PLANS FOR RESTORATION OF SURFACE

- a. All surface areas not required for producing operations will be graded to as near original condition as possible and contoured to minimize possible erosion.
- b. Available topsoil will be stockpiled and will be evenly distributed over the disturbed areas and the area will be reseeded as prescribed by the landowner.
- c. Pits and any other area that would present a hazard to wildlife or livestock will be fenced off when the rig is released and removed.
- d. Rehabilitation will commence following completion of the well. Rat and mouse holes will be filled in immediately upon release of the drilling rig from the location. If the well site is to be abandoned, all disturbed areas will be re-contoured to the natural terrain found prior to location construction.

11. SURFACE OWNERSHIP

- a. The well site and access road are on and across lands originally owned through the State of Utah School and Institutional Trust Lands Administration and covered by Surface Use Agreement # ML-46537. ***Under this Surface Use Agreement AND the original APD Approval, this well location and access road were constructed and remain in a rig-ready state.*** Since the expiration of the original APD for this well, ownership of these lands have since been transferred to the State of Utah Department of Natural Resources, Division of Wildlife Resources, 1594 W. North Temple, Suite 2110, P.O. Box 146301, Salt Lake City, Utah, 84114-6301. The operator shall contact the landowner and the Division of Oil, Gas and Mining 48 hours prior to beginning construction activities.

12. OTHER INFORMATION

- a. The primary surface use is wildlife habitat and/or cattle grazing. The nearest dwelling is approximately 13.5 miles east (Price, Utah).
- b. If there is snow on the ground when construction begins, it will be removed before the soil is disturbed and piled downhill from the topsoil stockpile location.
- c. The back-slope and fore-slope will be constructed no steeper than 4:1.
- d. All equipment and vehicles will be confined to the access road and well pad.
- e. A complete copy of the approved Application for Permit to Drill (APD,) including all conditions and stipulations shall be on the well-site during construction and drilling operations.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the Division of Oil, Gas & Mining.

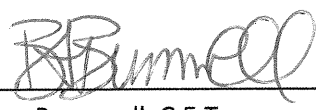
13. COMPANY REPRESENTATIVE

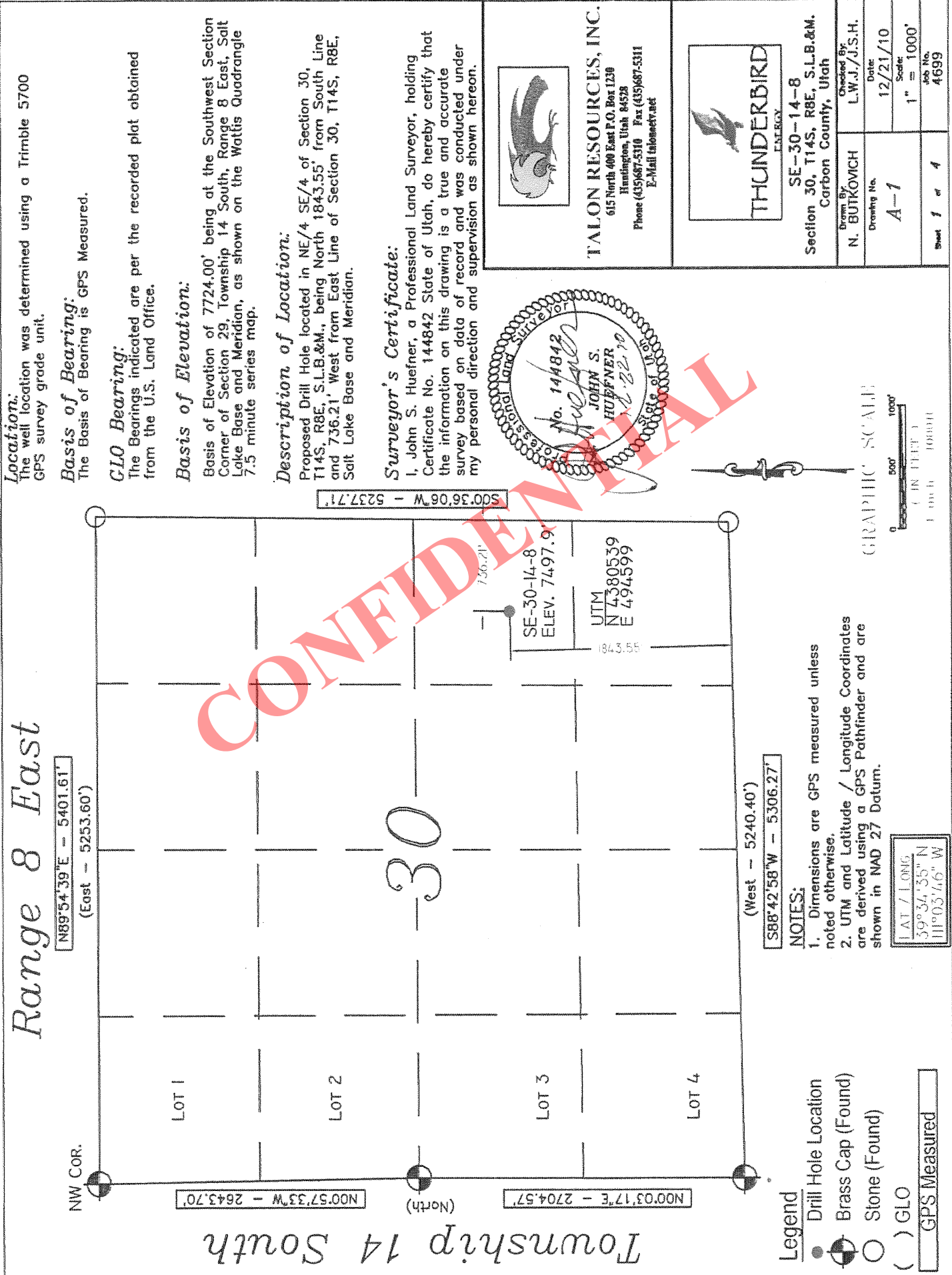
Barry Brumwell, C.E.T.
Vice President, Operations
Gordon Creek LLC., a wholly owned subsidiary of
Thunderbird Energy Corp.
#550, 1010 – 1st Street S.W.
Calgary, Alberta, Canada
(403) 453-1608 (office)
(403) 818-0696 (mobile)
bbrumwell@thunderbirdenergy.com

14. CERTIFICATION

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed by Gordon Creek, LLC. and its subcontractors in conformity with this plan and the terms and conditions under which it is approved.

9/27/2011
DATE


Barry Brumwell, C.E.T.
Vice President, Operations
Gordon Creek LLC. / Thunderbird Energy Inc.



Location:
The well location was determined using a Trimble 5700 GPS survey grade unit.

Basis of Bearing:
The Basis of Bearing is GPS Measured.

CLO Bearing:
The Bearings indicated are per the recorded plat obtained from the U.S. Land Office.

Basis of Elevation:
Basis of Elevation of 7724.00' being at the Southwest Section Corner of Section 29, Township 14 South, Range 8 East, Salt Lake Base and Meridian, as shown on the Wattis Quadrangle 7.5 minute series map.

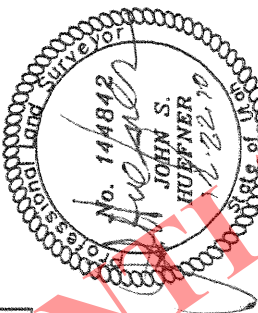
Description of Location:
Proposed Drill Hole located in NE/4 SE/4 of Section 30, T14S, R8E, S.L.B.&M., being North 1843.55' from South Line and 736.21' West from East Line of Section 30, T14S, R8E, Salt Lake Base and Meridian.

Surveyor's Certificate:
I, John S. Huefner, a Professional Land Surveyor, holding Certificate No. 144842 State of Utah, do hereby certify that the information on this drawing is a true and accurate survey based on data of record and was conducted under my personal direction and supervision as shown hereon.

TALON RESOURCES, INC.
615 North 400 East P.O. Box 1230
Henderson, Utah 84528
Phone (435)687-5310 Fax (435)687-5311
E-Mail talon@talon.net

THUNDERBIRD ENERGY
SE-30-14-8
Section 30, T14S, R8E, S.L.B.&M.
Carbon County, Utah

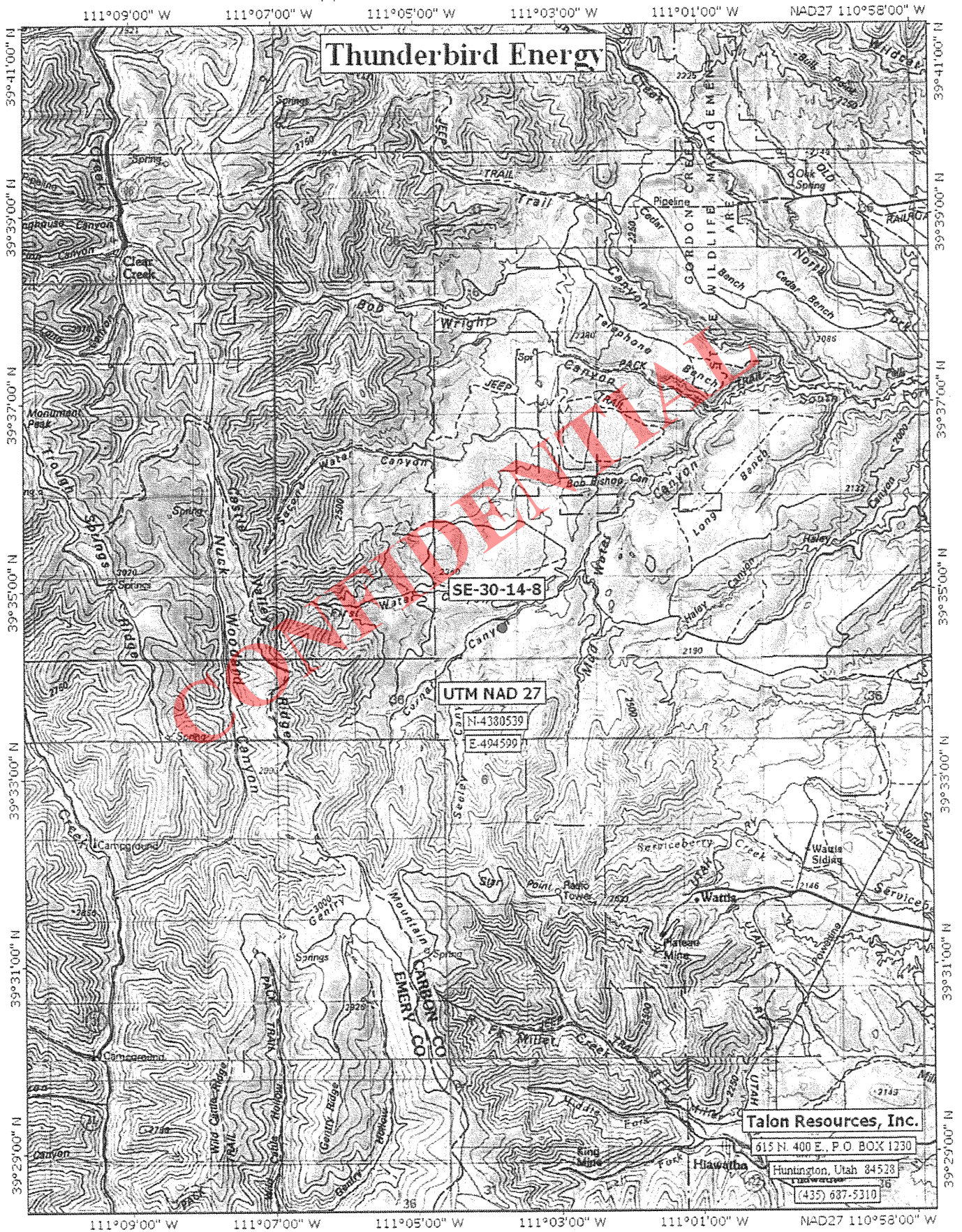
Drawn By: N. BUTKOVICH
Checked By: L.W.J./J.S.H.
Date: 12/21/10
Drawing No. A-1
Scale: 1" = 1000'
Sheet 1 of 4 Job No. 4699



- Legend**
- Drill Hole Location
 - Brass Cap (Found)
 - Stone (Found)
 - () GLO
 - GPS Measured
- NOTES:**
1. Dimensions are GPS measured unless noted otherwise.
 2. UTM and Latitude / Longitude Coordinates are derived using a GPS Pathfinder and are shown in NAD 27 Datum.

LAT / LONG
39°34'35" N
111°03'46" W

TOPOI map printed on 12/21/10 from "Thunderbird-SE-30-14-8.tpo"



TN MN
12"

0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 miles
0 1 2 3 4 5 km



September 27th, 2011

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Re: *Affidavit of status of Surface Owner Agreement*

This letter may serve as notice that Gordon Creek, LLC., as a wholly owned subsidiary of Thunderbird Energy Corp. do hereby rightfully hold a Paid Up Oil and Gas Surface Use and Mineral Lease numbered Bk 599 Pg 645 for the following lands:

Township 14 South, Range 8 East, SLM

Section 30, SESW, N ½ SE

I certify this to be true and accurate, to the best of my knowledge.

Signed

Signed By:

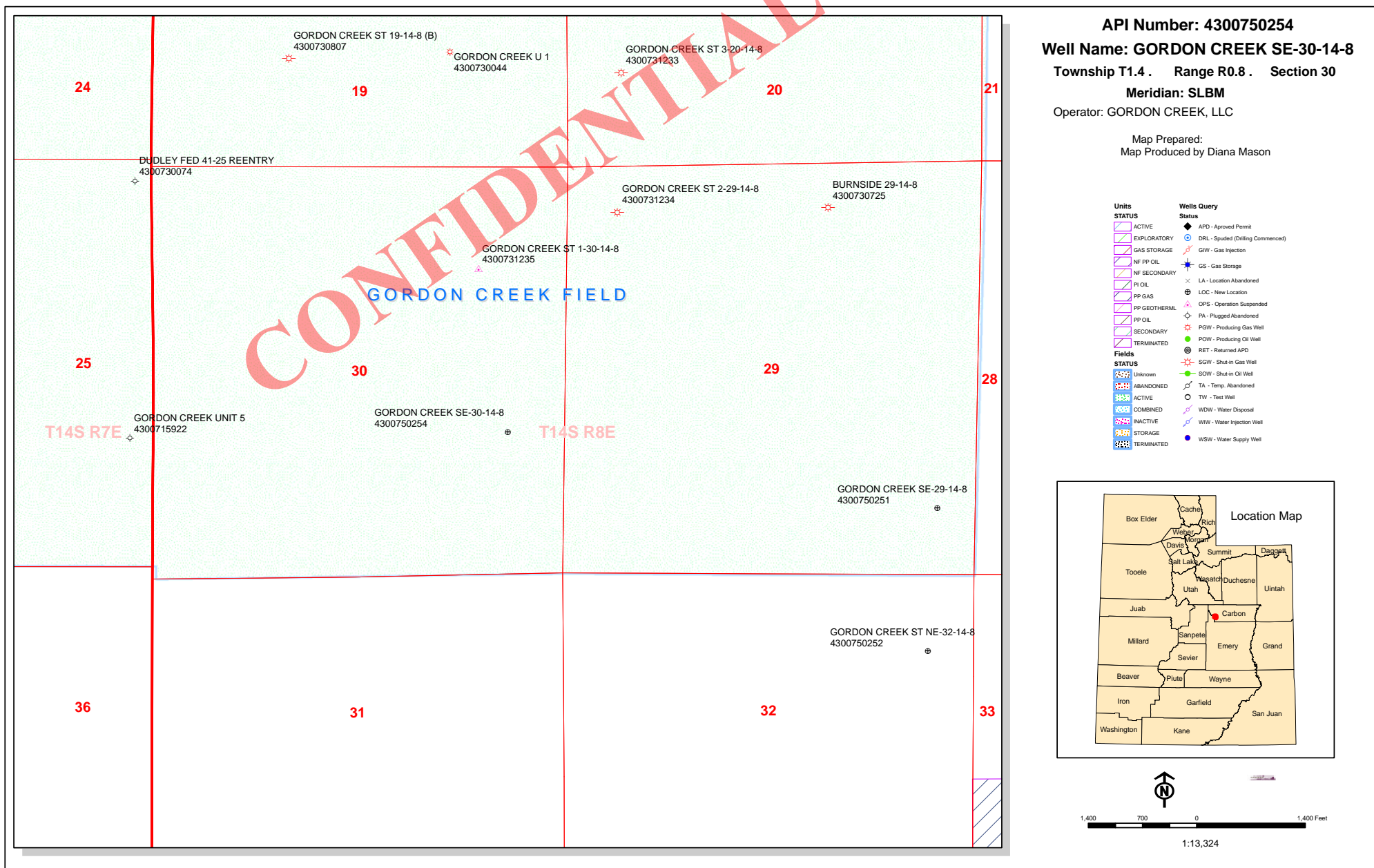
Barry Brumwell, C.E.T.

Vice President of Operations

Thunderbird Energy

Gordon Creek, LLC.

Gordon Creek, LLC. is a wholly owned subsidiary of Thunderbird Energy Inc.



BOPE REVIEW GORDON CREEK, LLC GORDON CREEK SE-30-14-8 43007502540000

Well Name	GORDON CREEK, LLC GORDON CREEK SE-30-14-8 430075			
String	SURF	PROD		
Casing Size(in)	8.625	5.500		
Setting Depth (TVD)	450	4127		
Previous Shoe Setting Depth (TVD)	0	450		
Max Mud Weight (ppg)	8.7	10.0		
BOPE Proposed (psi)	500	3000		
Casing Internal Yield (psi)	2950	7740		
Operators Max Anticipated Pressure (psi)	1250	5.8		

Calculations	SURF String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	204	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	150	YES <input type="text" value="air drill"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	105	YES <input type="text" value="OK"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	105	NO <input type="text" value="OK"/>
Required Casing/BOPE Test Pressure=		450	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

Calculations	PROD String	5.500	"
Max BHP (psi)	.052*Setting Depth*MW=	2146	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	1651	YES <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	1238	YES <input type="text" value="OK"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	1337	NO <input type="text" value="Reasonable"/>
Required Casing/BOPE Test Pressure=		3000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		450	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="text"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="text"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="text"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="text"/>
Required Casing/BOPE Test Pressure=			psi

API Well Number: 43007502540000

*Max Pressure Allowed @ Previous Casing Shoe=

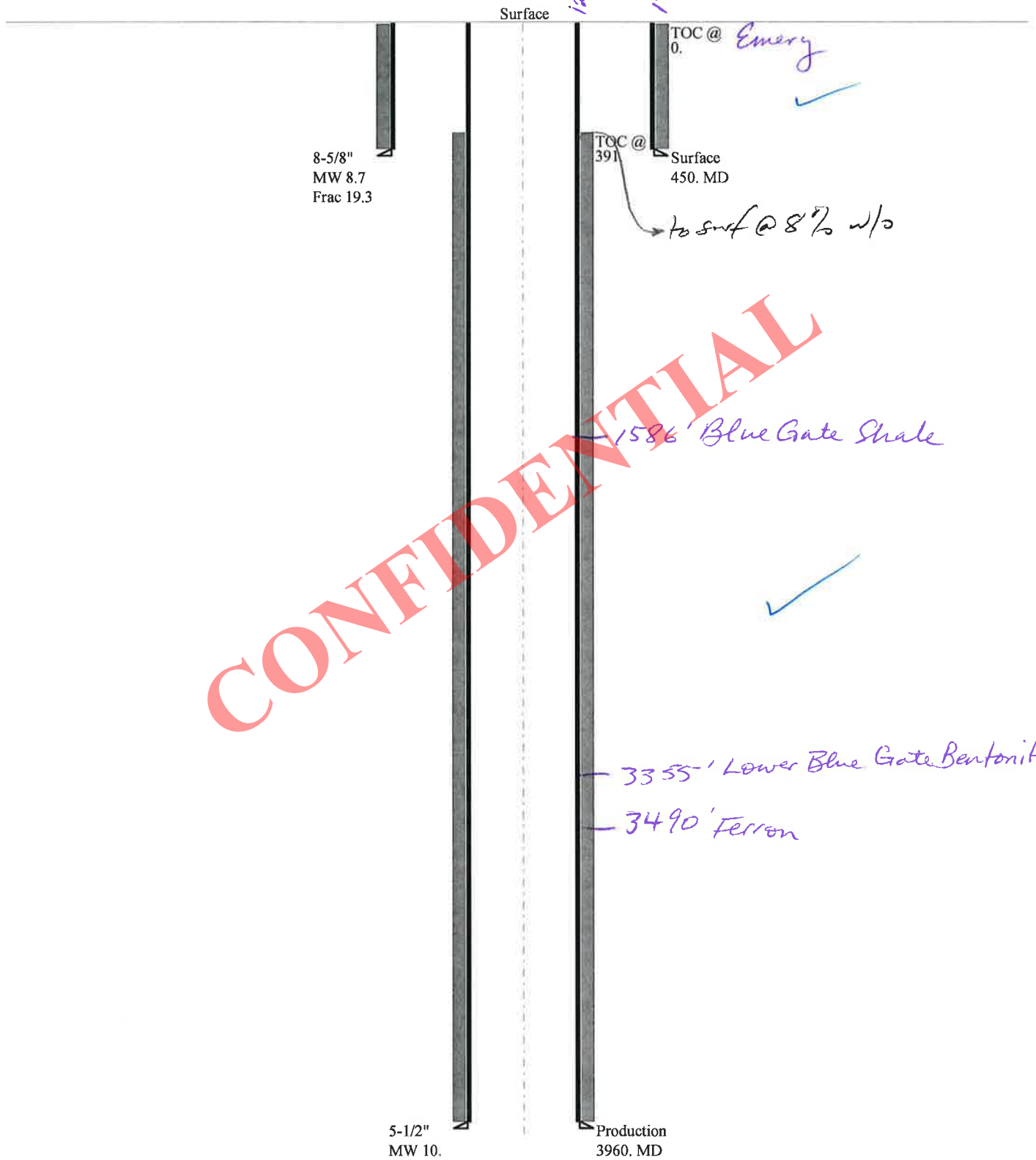
psi *Assumes 1psi/ft frac gradient

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RECEIVED: October 17, 2011

43007502540000 GORDON CREEK SE-30-14-8

Casing Schematic



Well name:	43007502540000 GORDON CREEK SE-30-14-8	
Operator:	GORDON CREEK, LLC	
String type:	Surface	Project ID: 43-007-50254
Location:	CARBON COUNTY	

Design parameters:**Collapse**

Mud weight: 8.700 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 80 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: Surface

Burst

Max anticipated surface pressure: 396 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 450 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 391 ft

Non-directional string.**Re subsequent strings:**

Next setting depth: 3,960 ft
Next mud weight: 10.000 ppg
Next setting BHP: 2,057 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 450 ft
Injection pressure: 450 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	450	8.625	24.00	J-55	ST&C	450	450	7.972	2317
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	203	1370	6.736	450	2950	6.56	10.8	244	22.59 J

Prepared by: Helen Sadik-Macdonald
Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: October 13, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 450 ft, a mud weight of 8.7 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	43007502540000 GORDON CREEK SE-30-14-8	
Operator:	GORDON CREEK, LLC	
String type:	Production	Project ID: 43-007-50254
Location:	CARBON COUNTY	

Design parameters:**Collapse**

Mud weight: 10.000 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 129 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,000 ft

Cement top: 391 ft

Burst

Max anticipated surface pressure: 1,186 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 2,057 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Non-directional string.

Tension is based on air weight.
Neutral point: 3,360 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	3960	5.5	17.00	N-80	LT&C	3960	3960	4.767	22320
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	2057	6290	3.058	2057	7740	3.76	67.3	348	5.17 J

Prepared by: Helen Sadik-Macdonald
Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: October 13, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 3960 ft, a mud weight of 10 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator GORDON CREEK, LLC
Well Name GORDON CREEK SE-30-14-8
API Number 43007502540000 **APD No** 4711 **Field/Unit** GORDON CREEK
Location: 1/4,1/4 NESE **Sec** 30 **Tw** 14.0S **Rng** 8.0E 1844 FSL 736 FEL
GPS Coord (UTM) 494598 4380544 **Surface Owner** Lannie K. Burnside

Participants

M. Jones (UDOGM), B. Brumwell, S. Lessar, L. Williams, (Thunderbird), A. Childs, M. Childs (Talon), Lannie Burnside (surface ownership).

Regional/Local Setting & Topography

Upper Gordon Creek area. East of Corner Canyon and east of the Forest Service boundary. The area is dominated by deep well developed drainages. The soil in the area is highly prone to erosion. Several big and small drainages will be crossed with the pipeline and access road into the location. The topography varies drastically in short distances. The site itself is relatively flat in comparison to surrounding topography.

Surface Use Plan

Current Surface Use

Grazing
Wildlife Habitat

New Road Miles

Well Pad

Width 210 Length 285

Src Const Material

Onsite

Surface Formation

Ancillary Facilities

Waste Management Plan Adequate?

Environmental Parameters

Affected Floodplains and/or Wetlands Y

the site is prone for sheet flooding and ephemeral dry wash flooding.

Flora / Fauna

sagebrush, grasses

Soil Type and Characteristics

clay loam

Erosion Issues Y

The soil in the area is highly prone to erosion.

Sedimentation Issues Y

Erosion will cause sedimentation issues down stream.

Site Stability Issues N

Drainage Diversion Required? Y

Divert drainages around and away from location and access road.

Berm Required? Y

Berm location to prevent fluids from leaving or entering pad.

Erosion Sedimentation Control Required? Y

Divert drainages, berm pad, culvert, and rip-rap as necessary.

Paleo Survey Run? N Paleo Potential Observed? N Cultural Survey Run? N Cultural Resources? N

Reserve Pit**Site-Specific Factors****Site Ranking**

Distance to Groundwater (feet)	>200	0
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)	>1320	0
Native Soil Type	Mod permeability	10
Fluid Type	Fresh Water	5
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)	10 to 20	5
Affected Populations		
Presence Nearby Utility Conduits	Not Present	0
Final Score		20 1 Sensitivity Level

Characteristics / Requirements

Dugout earthen 100 x 50 x 10.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 16 Pit Underlayment Required? N

Other Observations / Comments

GPD coordinates are off here in the office. I'm wondering if that is because I took NAD27 data and we recently converted to NAD83?

Waiting on location layout showing location and size of pit in relation to pad and wellhead.

Multi-point surface use plan needs to be corrected: (#2a, 7a, 11a.)

Also need distance of new access road.

Mark Jones
Evaluator

10/4/2011
Date / Time

Application for Permit to Drill

Statement of Basis

Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
4711	43007502540000	LOCKED	GW	P	No
Operator	GORDON CREEK, LLC		Surface Owner-APD	Lannie K. Burnside	
Well Name	GORDON CREEK SE-30-14-8		Unit		
Field	GORDON CREEK		Type of Work	DRILL	
Location	NESE 30 14S 8E S 1844 FSL 736 FEL GPS Coord (UTM) 494538E 4380746N				

Geologic Statement of Basis

Thunderbird Energy proposes to drill the well to a total depth of 3,960' and plans to set surface casing from 0'-450'. The surface string will be drilled using air unless hole conditions require the need to "mud-up" with water and gel chem. Within a 10,000 foot radius of the center of section 30, there are 95 filed water rights, however, only two are subsurface groundwater rights. Gordon Creek, LLC, has applied to drill a water-well to produce 4 acre-feet of water for oil & gas field operations. Klabzuba Oil & Gas, Inc. has a water supply well for oil & gas field operations, however, no other well information is available; it is assumed that the water is being drawn from the Emery Sandstone. This location is within a small north-south trending graben valley. The poorly permeable silty soil has been formed from the erosion of the Upper Blue Gate Member of the Mancos Shale. Several units of the Emery Sandstone Member of the Mancos Shale are present at the near surface or within the subsurface, these strata should be included within the interval to be protected by the surface casing string. The operator should be informed of the likelihood of these units being water saturated and to respond to protecting these zones by extending the surface casing as necessary. Proposed surface casing and cement should adequately isolate any shallow zones containing water.

Ammon McDonald
APD Evaluator

10/13/2011
Date / Time

Surface Statement of Basis

This location is staked in the upper Gordon Creek area. East of Corner Canyon and east of the Forest Service boundary. The area is dominated by deep well developed ephemeral drainages. The soil in the area is highly prone to erosion. Several big and small drainages will be crossed with the pipeline and access road into the location. The topography varies drastically in short distances. The site itself is relatively flat in comparison to surrounding topography. Care should be taken in all aspects of construction of access roads, pipelines, and the well pad to protect drainages and allow for proper diversion of all run-off. Routine maintenance of these drainages, crossings, and diversions is recommended. The location should be bermed to prevent spills from leaving the confines of the pad. Fencing around the reserve pit will be necessary once the well is drilled to prevent wildlife and livestock from becoming a problem. Drainages should be diverted around and away from wellpad and access road. A synthetic liner of 16 mils (minimum) should be utilized in the reserve pit. Specifically a diversion ditch should be created on the west side of the pad to allow run-off to flow around the south side of the pad.

Mark Jones
Onsite Evaluator

10/4/2011
Date / Time

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 16 mils shall be properly installed and maintained in the reserve pit.
Surface	The well site shall be bermed to prevent fluids from leaving the pad.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location. Specifically a diversion ditch should be created on the west side of the pad to allow run-off to flow around the south side of the pad.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

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WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 9/29/2011

API NO. ASSIGNED: 43007502540000

WELL NAME: GORDON CREEK SE-30-14-8

OPERATOR: GORDON CREEK, LLC (N3245)

PHONE NUMBER: 403 453-1608

CONTACT: Barry Brumwell

PROPOSED LOCATION: NESE 30 140S 080E

Permit Tech Review: ☒

SURFACE: 1844 FSL 0736 FEL

Engineering Review: ☒

BOTTOM: 1844 FSL 0736 FEL

Geology Review: ☒

COUNTY: CARBON

LATITUDE: 39.57641

LONGITUDE: -111.06360

UTM SURF EASTINGS: 494538.00

NORTHINGS: 4380746.00

FIELD NAME: GORDON CREEK

LEASE TYPE: 4 - Fee

LEASE NUMBER: Burnside Bk599 Pg645

PROPOSED PRODUCING FORMATION(S): FERRON SANDSTONE

SURFACE OWNER: 4 - Fee

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

LOCATION AND SITING:

☒ PLAT☐ R649-2-3.☒ Bond: STATE - RLB0010790

Unit:

☐ Potash☐ R649-3-2. General☐ Oil Shale 190-5☐ Oil Shale 190-3☐ R649-3-3. Exception☐ Oil Shale 190-13☒ Drilling Unit☒ Water Permit: 91-5193

Board Cause No: Cause 248-01

☐ RDCC Review:

Effective Date: 5/16/2002

☒ Fee Surface Agreement

Siting: 460' Fr Outer Bdry & 920' Fr Other Wells

☐ Intent to Commingle☐ R649-3-11. Directional Drill

Commingle Approved

Comments: Presite Completed

Stipulations: 5 - Statement of Basis - bhill
9 - Cement casing to Surface - hmacdonald
27 - Other - bhill

RECEIVED: November 21, 2012



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: GORDON CREEK SE-30-14-8
API Well Number: 43007502540000
Lease Number: Burnside Bk599 Pg645
Surface Owner: FEE (PRIVATE)
Approval Date: 11/21/2012

Issued to:

GORDON CREEK, LLC, 1179 E Main #345, Price, UT 84501

Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 248-01. The expected producing formation or pool is the FERRON SANDSTONE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

The cement volumes for the 5 1/2" casing shall be determined from actual hole conditions and the setting depth of the casing in order to place cement from the pipe setting depth back to the surface.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Operator shall extend surface casing as needed to protect fresh water zones.

Additional Approvals:

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan - contact Dustin Doucet
- Significant plug back of the well - contact Dustin Doucet

- Plug and abandonment of the well - contact Dustin Doucet

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels
OR
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program
 - contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well - contact Dan Jarvis

Contact Information:

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
801-231-8956 - after office hours

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:



For John Rogers
Associate Director, Oil & Gas



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

February 11, 2014

Gordon Creek, LLC
1179 E Main #345
Price, UT 84501

Re: APD Rescinded – Gordon Creek SE-30-14-8, Sec. 30 T.14S, R.8E,
Carbon County, Utah API No. 43-007-50254


Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on November 21, 2012. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective February 11, 2014.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,


Diana Mason
Environmental Scientist

cc: Well File
Brad Hill, Technical Service Manager

